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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/708,492	11/09/2000	Pui Lun Lau	6202-41	2609

21967 7590 05/03/2005

HUNTON & WILLIAMS LLP
INTELLECTUAL PROPERTY DEPARTMENT
1900 K STREET, N.W.
SUITE 1200
WASHINGTON, DC 20006-1109

EXAMINER	
BRUCKART, BENJAMIN R	
ART UNIT	**PAPER NUMBER**
2155	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/708,492	LAU, PUI-LUN	
	Examiner	Art Unit	
	Benjamin R. Bruckart	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Status of Claims:

Claims 1-45 are pending in this Office Action.

The 35 U.S.C. 112, second paragraph rejection is withdrawn in light of applicant's amendment.

Claims 1-5, 7, 9-15, 17, 19-20, 22-24, 26, 28-34, 36, 38-42, 44-45 remain rejected under 35 U.S.C 103(a) as being anticipated by U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No 5,287,461 by Moore.

Claims 6, 16, 25, 35 remain rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No 5,287,461 by Moore in further view of U.S. Patent No. 5,761,084 by Edwards.

Claims 8, 18, 27, 37 and 43 remain rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No 5,287,461 by Moore in further view of U.S. Patent No. 4,937,817 by Lin.

Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No 5,287,461 by Moore in further view of U.S. Patent No. 5,680,324 by Schweitzer et al.

Response to Arguments

Applicant's arguments filed in the amendment filed 2/9/05, have been fully considered but they are not persuasive. The reasons are set forth below.

Applicant's invention as claimed:

Claims 1-5, 7, 9-15, 17, 19-20, 22-24, 26, 28-34, 36, 38-42, 44-45 are rejected under 35 U.S.C 103(a) as being anticipated by U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No 5,287,461 by Moore.

Regarding claim 1,

The Dai reference teaches a multiple port unit adapted for coupling one or more computers to multiple peripheral devices over a network (Dai: col. 4, lines 38-43, Figure 1), said multiple port unit comprising:

plural network ports (Dai: col. 2, lines 25-33; col. 4, lines 38-43), each of said network ports being configured to couple the multiple port unit to a computer over a respective network link (Dai: col. 2, lines 25-33; col. 4, lines 38-43; where Ethernet ports are network ports); and

a control unit configured to interrogate the network links and to communicatively couple said ports to a selected one of said network ports based on the interrogation of the network links (Dai: col. 2, lines 48-59).

The Dai reference does not explicitly state serial ports.

The Moore reference teaches plural communication serial ports (Moore: col. 3, lines 42-57), each of said communication serial ports being configured to couple the multiple port unit to a peripheral device (Moore: col. 3, lines 58-65).

The Moore reference further teaches the serial console line for each server has the capability to transmit to and receive from a serial port with another device (Moore: col. 2, lines 40-45).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of serial ports as taught by Moore in order to transmit and receive with a serial port and other devices (Moore: col. 2, lines 40-45).

Claims 2-5, 7, 9-10 are rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Dai and Moore.

Regarding claim 2, a multiple port unit as recited in claim 1, wherein said network ports are configured to couple the multiple port unit to plural computers and wherein said control unit is configured to interrogate each of the plural the computers and to control the peripheral devices based on the interrogation of the computers (Dai: col. 2, lines 48-59; Moore: col. 2, lines 45-53).

Regarding claim 3, a multiple port unit as recited in claim 2, wherein said control unit interrogates the computers over each of the network links in an alternating manner (Dai: col. 8, lines 43-54; alternating putting data on the bus for processing).

Regarding claim 4, a multiple port unit as recited in claim 3, wherein said network ports comprise Ethernet ports (Dai: col. 2, lines 25-33).

Regarding claim 5, a multiple port unit as recited in claim 4, wherein said communication serial ports comprise serial ports (Moore: col. 3, lines 42-57).

Regarding claim 7, a multiple port unit as recited in claim 1, where said control unit is configured to interrogate the network links using a network carrier signal (Dai: col. 8, lines 33-54 where the carrier signal is modulated with the clock cycle).

Regarding claim 9, a multiple port unit as recited in claim 2, comprising two network ports and 8 communications ports (Dai: col. 2, lines 25-33; Ethernet ports and Moore: col. 3, lines 42-57).

Regarding claim 10, a multiple port unit as recited in claim 2, further comprising a data bus coupled to said control unit (Dai: col. 2, lines 63- col. 3, line 2; Figures 2 tag 230), said network ports and said communication serial ports (Dai: Figure 2 tags 101-124 and tag 150; Moore: Figure 3).

Regarding claim 11,

The Dai reference teaches a computer architecture comprising:

plural computers (Dai: col. 4, lines 38-43, Figure 1; DTEs are computers connected to the switch);

plural peripheral devices (Dai: col. 4, lines 38-43, Figure 1; DTEs are devices connected to the switch); and

a multiple port unit having plural network ports (Dai: col. 2, lines 25-33, col. 4, lines 38-43) and a control unit (Dai: col. 2, lines 48-59), each of said network ports being coupled to one of said plural computers over a respective network link (Dai: col. 4, lines 38-43, Figure 1 shows the network coupling the DTEs, DTEs taken to be devices like computers), said control unit being configured to interrogate the network links and to communicatively

couple said ports to a selected one of said network ports based on the interrogation of the network links (Dai: col. 2, lines 48-59).

The Moore reference teaches plural serial communication ports (Moore: col. 3, lines 42-57) each of said communication serial ports being coupled to a peripheral device (Moore: col. 3, lines 42-57).

The Moore reference further teaches the serial console line for each server has the capability to transmit to and receive from a serial port with another device (Moore: col. 2, lines 40-45).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of serial ports as taught by Moore in order to transmit and receive with a serial port and other devices (Moore: col. 2, lines 40-45).

Claims 12-15, 17, 19-20 are rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Dai and Moore.

Regarding claim 12, a computer architecture as recited in claim 11, wherein said control unit is configured to interrogate each of the plural computers and to control the peripheral devices based on the interrogation of the computers (Dai: col. 2, lines 48-59; Moore: col. 2, lines 45-53).

Regarding claim 13, a computer architecture as recited in claim 12, wherein said control unit interrogates the computers over each of the network links in an alternating manner (Dai: col. 8, lines 43-54; alternating putting data on the bus for processing).

Regarding claim 14, a computer architecture as recited in claim 13, wherein said network ports comprise Ethernet ports (Dai: col. 2, lines 25-33).

Regarding claim 15, a computer architecture as recited in claim 14, wherein said communication serial ports comprise serial interfaces (Moore: col. 3, lines 42-57).

Regarding claim 17, a computer architecture as recited in claim 11, wherein said control unit is configured to interrogate said network links using a network carrier signal (Dai: col. 8, lines 33-54 where the carrier signal is modulated with the clock cycle).

Regarding claim 19, a computer architecture as recited in claim 12, comprising two network ports and 8 communications ports (Dai: col. 2, lines 25-33; Ethernet ports and Moore: col. 3, lines 42-57).

Regarding claim 22,

The Dai reference teaches a multiple port unit adapted for coupling one or more computers to multiple intelligent electronic devices over a network (Dai: col. 4, lines 38-43, Figure 1), said multiple port unit comprising:

two Ethernet ports (Dai: col. 2, lines 25-33), each of said Ethernet ports being configured to couple the multiple port unit to a computer over a respective Ethernet link (Dai: col. 2, lines 25-33; col. 4, lines 38-43); and

a control unit configured to interrogate the Ethernet links and to communicatively couple said serial ports to a selected one of said Ethernet ports based on the interrogation of the Ethernet links (Dai: col. 2, lines 48-59).

The Dai reference does not explicitly state the use of serial ports.

The Moore reference teaches plural serial ports, each of said serial ports being configured to couple the multiple port unit to intelligent electronic devices (Moore: col. 3, lines 42-57).

The Moore reference further teaches the serial console line for each server has the capability to transmit to and receive from a serial port with another device (Moore: col. 2, lines 40-45).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of serial ports as taught by Moore in order to transmit and receive with a serial port and other devices (Moore: col. 2, lines 40-45).

Claims 23, 24, 26, 28-29 are rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Moore and Dai.

Regarding claim 23, a multiple port unit as recited in claim 22, wherein said control unit is configured to interrogate each of the plural the computers and to designate a selected one of the computers as an active computer to control the intelligent electronic devices based on the interrogation of the computers (Dai: col. 2, lines 48-59).

Regarding claim 24, a multiple port unit as recited in claim 23, wherein said control unit interrogates the computers over each of the Ethernet links in an alternating manner (Dai: col. 8, lines 43-54; alternating putting data on the bus for processing).

Regarding claim 26, a multiple port unit as recited in claim 22, wherein said control unit is configured to interrogate the Ethernet links using an Ethernet carrier signal (Dai: col. 8, lines 33-54 where the carrier signal is modulated with the clock cycle).

Regarding claim 28, a multiple port unit as recited in claim 23, comprising 8 serial ports (Moore: col. 3, lines 42-57).

Regarding claim 29, a multiple port unit as recited in claim 22, further comprising a data bus coupled to said control unit (Dai: col. 2, lines 63- col. 3, line 2; Figures 2 tag 230), said Ethernet ports (Dai: col. 2, lines 25-33; Figure 1, tags 101-124), and said serial ports (Moore: col. 3, lines 42-57).

Regarding claim 30,

The Dai reference teaches a multiple port unit adapted for coupling one or more computers to multiple peripheral devices over a network (Dai: col. 4, lines 38-43, Figure 1), said multiple port unit comprising:

plural network ports (Dai: col. 2, lines 25-33; col. 4, lines 38-43), each of said network ports being configured to couple the multiple port unit to a computer over a respective network link (Dai: col. 2, lines 25-33; col. 4, lines 38-43; Ethernet ports form network links);

control means for interrogating the network links and communicatively coupling said ports to a selected one of said network ports based on the interrogation of the network links (Dai: col. 2, lines 48-59).

The Dai reference does not explicitly state serial ports.

The Moore reference teaches plural communication serial ports, each of said communication serial ports being configured to couple the multiple port unit to a peripheral device (Moore: col. 3, lines 42-57).

The Moore reference further teaches the serial console line for each server has the capability to transmit to and receive from a serial port with another device (Moore: col. 2, lines 40-45).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of serial ports as taught by Moore in order to transmit and receive with a serial port and other devices (Moore: col. 2, lines 40-45).

Claims 31-34, 36, 38-39 are rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Moore and Dai.

Regarding claim 31, a multiple port unit as recited in claim 30, wherein said network ports are configured to couple the multiple port unit to plural computers (Dai: col. 4, lines 38-43, Figure 1) and wherein said control means comprises computer interrogating means for interrogating each of the plural computers (Dai: col. 2, lines 48-59) designating a selected one of the computers as an active computer to control the peripheral devices based on the interrogation of the computers (Moore: col. 3, lines 33-41).

Regarding claim 32, a multiple port unit as recited in claim 31, wherein said computer interrogating means interrogates the computers over each of the network links in an alternating manner (Dai: col. 8, lines 43-54; alternating putting data on the bus for processing).

Regarding claim 33, a multiple port unit as recited in claim 32, wherein said network communication serial ports comprise Ethernet ports (Dai: col. 2, lines 25-33).

Regarding claim 34, a multiple port unit as recited in claim 33, wherein said communication serial ports comprise serial ports (Moore: col. 3, lines 42-57).

Regarding claim 36, a multiple port unit as recited in claim 30, wherein said control means comprises means for detecting a network carrier signal (Dai: col. 8, lines 33-54 where the carrier signal is modulated with the clock cycle).

Regarding claim 38, a multiple port unit as recited in claim 30, further comprising a data bus coupled to said control means (Dai: col. 2, lines 63- col. 3, line 2; Figures 2 tag 230), said network ports (Dai: col. 2, lines 63- col. 3, line 2; Figures 2 tag 230) and said communication serial ports (Dai: col. 2, lines 25-33)

Regarding claim 39, a multiple port unit as recited in claim 31, comprising two network ports and 8 communications ports (Dai: col. 2, lines 25-33; Ethernet ports and Moore: col. 3, lines 42-57).

Regarding claim 40,

The Dai reference teaches a method of coupling plural peripheral devices to computers (Dai: col. 2, lines 25-33; col. 4, lines 38-43; Figure 1), said method comprising the steps of.

interrogating the status of plural network connections with a control unit of a multiple port unit having plural network ports coupled to the plural network connections (Dai: col. 2, lines 25-33 48-59; col. 4, lines 38-43).

The Dai reference does not explicitly state serial ports.

The Moore reference teaches plural communication serial ports coupled to peripheral devices (Moore: col. 3, lines 42-47); and

coupling the plural communication serial ports to one of the network connections based on the results of said step of interrogating the status of plural network connections (Moore: col. 3, lines 42-47; col. 2, lines 45-53).

The Moore reference further teaches the serial console line for each server has the capability to transmit to and receive from a serial port with another device (Moore: col. 2, lines 40-45).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of serial ports as taught by Moore in order to transmit and receive with a serial port and other devices (Moore: col. 2, lines 40-45).

Claims 41-42, 44-45 are rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Moore and Dai.

Regarding claim 41, a method as recited in claim 40 further comprising the steps of:

interrogating the status of plural computers respectively coupled to the network connections (Dai: col. 2, lines 48-59); and

controlling the peripheral devices based on the results of said step of interrogating the status of plural computers (Dai: col. 2, lines 52-59).

Regarding claim 42, a method as recited in claim 41, wherein said step of interrogating the status of plural network connections comprises detecting a carrier on each network connection (Dai: col. 8, lines 33-54 where the carrier signal is a modulated signal with the clock cycle).

Regarding claim 44, a method as recited in claim 41, further comprising the step of maintaining a record of the status of each computer and each network connection in the control unit (Dai: col. 3, lines 3-5; col. 2, lines 55-59).

Regarding claim 45, a method as recited in claim 41, further comprising the step of transferring status data between the computers at the direction of the control unit (Dai: col. 8, lines 43-54).

Claim 6, 16, 25, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No 5,287,461 by Moore in further view of U.S. Patent No. 5,761,084 by Edwards.

Claim 8, 18, 27, 37 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No 5,287,461 by Moore in further view of U.S. Patent No. 4,937,817 by Lin.

Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No 5,287,461 by Moore in further view of U.S. Patent No. 5,680,324 by Schweitzer et al.

Regarding claim 6,

The Dai and Moore references teach a network switch that does packet segmentation and switching with a plurality of ports.

The Dai and Moore references do not explicitly state the use of two redundant power supplies.

The Edwards reference teaches two redundant power supplies (Edwards: col. 1, lines 53-58).

The Edwards reference further teaches in the event of a power outage it supplies power to a wide area network switch that couples others and avoids failure of routing (Edwards: col. 1, lines 31-49).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai and Moore while employing the use of two redundant power supplies as taught by Edwards in order to avoid failure of routing services (Edwards: col. 1, lines 31-49).

Claims 16 and 25, 35 are rejected under the same rationale given above.

Regarding claim 8,

The Dai and Moore references teach a network switch that does packet segmentation and switching with a plurality of ports.

The Dai and Moore references do not explicitly state the use of the Packet Internet Groper when interrogating links.

The Lin reference teaches a multiple port unit as recited in claim 2 (Lin: Figure 2, tag 208), wherein said control unit is configured to interrogate the computers using Packet Internet Groper (Lin: col. 11, lines 64- col. 12, line 2; ping).

The Lin reference further teaches that periodic pinging monitors proper operation (Lin: col. 11, lines 64 - col. 12, line 2)

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai and Moore while employing the use of Packet Internet Groper (ping) as taught by Lin in order to monitor proper operation (Lin: col. 11, lines 64 - col. 12, line 2).

Claims 18, 27, 37, 43 are rejected under the same rationale given above.

Regarding claim 20,

The Dai and Moore reference teach a computer architecture as recited in claim 12.

The Dai and Moore references do not explicit state intelligent devices as peripherals but do teach DTEs (Dai: col. 4, lines 38-43, Figure 1) which taken to be intelligent electronic devices.

The Schweitzer, III reference teaches peripheral devices that are intelligent electronic devices in communication with a network (Schweitzer: col. 3, lines 22-35).

The Schweitzer, III reference further teaches the invention overcomes limitations of the communications systems allowing information received from ports and other intelligent devices to be stored and retrieved (Schweitzer: col. 2, lines 17-25, 40-44; col. 1, lines 29-43).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai and Moore while employing IED as taught by Schweitzer in order to overcome limitations of the communications systems allowing information received from ports and other intelligent devices to be stored and retrieved (Schweitzer: col. 2, lines 17-25, 40-44; col. 1, lines 29-43).

Claim 21 is rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Moore and Dai and Schweitzer, III.

Regarding claims 21, a computer architecture as recited in claim 20, wherein said intelligent electronic devices are protective relays (Schweitzer: col. 3, lines 22-35).

REMARKS

This action is made non-final to correct the typographical error in addressing claims 20 and 21 as argued as unclear by applicant's amendment arguments.

The Applicant Argues:

Applicant argues the independent claims 1, 11, 22, 30 and 40 that the Dai reference fails to teach the features of claim 1 focusing on a control unit configured to *interrogate* the network links and to communicatively *couple* said communication serial ports to a selected one of said network ports based on the interrogation of the network links.

In response, the examiner respectfully submits:

The Dai reference does teach the limitations as claimed. Dai col. 2, lines 48-59 shows a controller which monitors traffic over the network. In the instant application, the verb 'interrogate' is interpreted as monitoring the traffic across the network. Monitoring is a form of interrogate and thus the prior art meets the breadth of the limitation because interrogate is used broadly and without further detail. Dai also teaches coupling ports. Although Dai does not explicitly teach serial ports, Dai does show coupling of ports to a high-speed network interface through a bridging controller (Dai: col. 2, lines 60-67).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R Bruckart whose telephone number 571-272-3982. The examiner can normally be reached on 8:00-5:30 PM with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-3982.

Benjamin R Bruckart
Examiner
Art Unit 2155

brb BRB

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100